

CLAIMS

What is claimed is:

1. A method of treating cancer in a patient in need thereof comprising administering to the patient a therapeutically effective amount of at least one chemotherapeutic agent and at least one immunoconjugate, wherein the immunoconjugate comprises at least one cell binding agent and at least one anti-mitotic agent.
2. The method of claim 1, wherein the cancer is a cancer of the breast, colon, lung, prostate, kidney, pancreas, brain, bones, ovary, testes or a lymphatic organ.
3. The method of claim 1, wherein the cancer is lung cancer.
4. The method of claim 3, wherein the lung cancer is a small cell lung cancer.
5. The method of claim 1, wherein the cancer is colon cancer.
6. The method of claim 1, wherein the anti-mitotic agent is a maytansinoid.
7. The method of claim 6, wherein the maytansinoid is DM1.
8. The method of claim 1, wherein the anti-mitotic agent is a *Vinca* alkaloid, a dolastatin, or a cryptophycin.
9. The method of claim 8, wherein the *Vinca* alkaloid is vincristine, vinblastine, vindesine or navelbine; wherein the dolastatin is dolastatin 10 or dolastatin 15; and wherein the cryptophycin is cryptophycin 52 or cryptophycin 1.
10. The method of claim 1, wherein the cell binding agent is a monoclonal antibody or a fragment thereof.
11. The method of claim 10, wherein the monoclonal antibody or fragment thereof is a humanized monoclonal antibody or fragment thereof.

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12. The method of claim 10, wherein the monoclonal antibody or fragment thereof is capable of binding to an antigen expressed by the cancer cell.

13. The method of claim 10, wherein the monoclonal antibody or fragment thereof is capable of binding to a CD56 antigen.

14. The method of claim 10, wherein the monoclonal antibody or fragment thereof is humanized N901 or humanized C242.

15. The method of claim 10, wherein the monoclonal antibody or fragment thereof is Fv, Fab, Fab' or F(ab')₂.

16. The method of claim 1, wherein the chemotherapeutic agent is a taxane compound.

17. The method of claim 16, wherein the taxane compound is paclitaxel or docetaxel.

18. The method of claim 1, wherein the chemotherapeutic agent is a compound that acts through a taxane mechanism.

19. The method of claim 18, wherein the compound that acts through a taxane mechanism is an epothilone compound.

20. The method of claim 19, wherein the epothilone compound is epothilone A, epothilone B, epothilone C, epothilone D, epothilone E or epothilone F.

21. The method of claim 1, wherein the chemotherapeutic agent is a platinum compound.

22. The method of claim 21, wherein the platinum compound is cisplatin, carboplatin, oxaliplatin, iproplatin, ormaplatin, or tetraplatin.

23. The method of claim 21, wherein the chemotherapeutic agent further comprises at least one epipodophyllotoxin compound.

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24. The method of claim 23, wherein the epipodophyllotoxin compound is etoposide or teniposide.
25. The method of claim 1, wherein the chemotherapeutic agent is a camptothecin compound.
26. The method of claim 25, wherein the camptothecin compound is camptothecin, topotecan, irinotecan or 9-aminocamptothecin.
27. The method of claim 1, wherein the chemotherapeutic agent is a compound that inhibits DNA topoisomerase I.
28. The method of claim 1, wherein the immunoconjugate is administered in an amount of about 100 ng to about 10 mg/kg body weight once per week.
29. The method of claim 1, wherein the immunoconjugate and chemotherapeutic agent are administered separately.
30. The method of claim 1, wherein the immunoconjugate and chemotherapeutic agent are administered as components of a single composition.
31. The method of claim 1, wherein the immunoconjugate and chemotherapeutic agent are administered parenterally.
32. The method of claim 31, wherein the immunoconjugate and chemotherapeutic agent are administered intravenously.
40. A composition comprising at least one chemotherapeutic agent and at least one immunoconjugate, wherein the immunoconjugate comprises at least one cell binding agent and at least one anti-mitotic agent.

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41. A kit comprising at least one chemotherapeutic agent and at least one immunoconjugate, wherein the immunoconjugate comprises at least one cell binding agent and at least one anti-mitotic agent.

44. (New) The composition of claim 40, wherein the anti-mitotic agent is a maytansinoid.

45. (New) The composition of claim 44, wherein the maytansinoid is DM1.

46. (New) The composition of claim 40, wherein the anti-mitotic agent is a *Vinca* alkaloid, a dolastatin, or a cryptophycin.

47. (New) The composition of claim 46, wherein the *Vinca* alkaloid is vincristine, vinblastine, vindesine or navelbine; wherein the dolastatin is dolastatin 10 or dolastatin 15; and wherein the cryptophycin is cryptophycin 52 or cryptophycin 1.

48. (New) The composition of claim 40, wherein the cell binding agent is a monoclonal antibody or a fragment thereof.

49. (New) The composition of claim 48, wherein the monoclonal antibody or fragment thereof is a humanized monoclonal antibody or fragment thereof.

50. (New) The composition of claim 48, wherein the monoclonal antibody or fragment thereof is capable of binding to an antigen expressed by a cancer cell.

51. (New) The composition of claim 48, wherein the monoclonal antibody or fragment thereof is capable of binding to a CD56 antigen.

52. (New) The composition of claim 48, wherein the monoclonal antibody or fragment thereof is humanized N901 or humanized C242.

53. (New) The composition of claim 48, wherein the monoclonal antibody or fragment thereof is Fv, Fab, Fab' or F(ab')₂.

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54. (New) The composition of claim 40, wherein the chemotherapeutic agent is a taxane compound.

55. (New) The composition of claim 54, wherein the taxane compound is paclitaxel or docetaxel.

56. (New) The composition of claim 40, wherein the chemotherapeutic agent is a compound that acts through a taxane mechanism.

57. (New) The composition of claim 56, wherein the compound that acts through a taxane mechanism is an epothilone compound.

58. (New) The composition of claim 57, wherein the epothilone compound is epothilone A, epothilone B, epothilone C, epothilone D, epothilone E or epothilone F.

59. (New) The composition of claim 40, wherein the chemotherapeutic agent is a platinum compound.

60. (New) The composition of claim 59, wherein the platinum compound is cisplatin, carboplatin, oxaliplatin, iproplatin, ormaplatin, or tetraplatin.

61. (New) The composition of claim 59, further comprising at least one epipodophyllotoxin compound.

62. (New) The composition of claim 61, wherein the epipodophyllotoxin compound is etoposide or teniposide.

63. (New) The composition of claim 40, wherein the chemotherapeutic agent is a camptothecin compound.

64. (New) The composition of claim 63, wherein the camptothecin compound is camptothecin, topotecan, irinotecan or 9-aminocamptothecin.

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65. (New) The composition of claim 40, wherein the chemotherapeutic agent is a compound that inhibits DNA topoisomerase I.

66. (New) The kit of claim 41, wherein the anti-mitotic agent is a maytansinoid.

67. (New) The kit of claim 66, wherein the maytansinoid is DM1.

68. (New) The kit of claim 41, wherein the anti-mitotic agent is a *Vinca* alkaloid, a dolastatin, or a cryptophycin.

69. (New) The kit of claim 68, wherein the *Vinca* alkaloid is vincristine, vinblastine, vindesine or navelbine; wherein the dolastatin is dolastatin 10 or dolastatin 15; and wherein the cryptophycin is cryptophycin 52 or cryptophycin 1.

70. (New) The kit of claim 41, wherein the cell binding agent is a monoclonal antibody or a fragment thereof.

71. (New) The kit of claim 70, wherein the monoclonal antibody or fragment thereof is a humanized monoclonal antibody or fragment thereof.

72. (New) The kit of claim 70, wherein the monoclonal antibody or fragment thereof is capable of binding to an antigen expressed by a cancer cell.

73. (New) The kit of claim 70, wherein the monoclonal antibody or fragment thereof is capable of binding to a CD56 antigen.

74. (New) The kit of claim 70, wherein the monoclonal antibody or fragment thereof is humanized N901 or humanized C242.

75. (New) The kit of claim 70, wherein the monoclonal antibody or fragment thereof is Fv, Fab, Fab' or F(ab')₂.

76. (New) The kit of claim 41, wherein the chemotherapeutic agent is a taxane compound.

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77. (New) The kit of claim 76, wherein the taxane compound is paclitaxel or docetaxel.

78. (New) The kit of claim 41, wherein the chemotherapeutic agent is a compound that acts through a taxane mechanism.

79. (New) The kit of claim 78, wherein the compound that acts through a taxane mechanism is an epothilone compound.

80. (New) The kit of claim 79, wherein the epothilone compound is epothilone A, epothilone B, epothilone C, epothilone D, epothilone E or epothilone F.

81. (New) The kit of claim 41, wherein the chemotherapeutic agent is a platinum compound.

82. (New) The kit of claim 81, wherein the platinum compound is cisplatin, carboplatin, oxaliplatin, iproplatin, ormaplatin, or tetraplatin.

83. (New) The kit of claim 81, further comprising at least one epipodophyllotoxin compound.

84. (New) The kit of claim 83, wherein the epipodophyllotoxin compound is etoposide or teniposide.

85. (New) The kit of claim 41, wherein the chemotherapeutic agent is a camptothecin compound.

86. (New) The kit of claim 85, wherein the camptothecin compound is camptothecin, topotecan, irinotecan or 9-aminocamptothecin.

87. (New) The kit of claim 41, wherein the chemotherapeutic agent is a compound that inhibits DNA topoisomerase I.

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88. (New) The kit of claim 41, wherein the immunoconjugate and chemotherapeutic agent are separate components in the kit.

89. (New) The kit of claim 41, wherein the immunoconjugate and chemotherapeutic agent are components of a single composition in the kit.

CLAIM AMENDMENTS



Cancel claims 33-39, 42 and 43 without prejudice.

44. (New) The composition of claim 40, wherein the anti-mitotic agent is a maytansinoid.
45. (New) The composition of claim 44, wherein the maytansinoid is DM1.
46. (New) The composition of claim 40, wherein the anti-mitotic agent is a *Vinca* alkaloid, a dolastatin, or a cryptophycin.
47. (New) The composition of claim 46, wherein the *Vinca* alkaloid is vincristine, vinblastine, vindesine or navelbine; wherein the dolastatin is dolastatin 10 or dolastatin 15; and wherein the cryptophycin is cryptophycin 52 or cryptophycin 1.
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49. (New) The composition of claim 48, wherein the monoclonal antibody or fragment thereof is a humanized monoclonal antibody or fragment thereof.
50. (New) The composition of claim 48, wherein the monoclonal antibody or fragment thereof is capable of binding to an antigen expressed by a cancer cell.
51. (New) The composition of claim 48, wherein the monoclonal antibody or fragment thereof is capable of binding to a CD56 antigen.
52. (New) The composition of claim 48, wherein the monoclonal antibody or fragment thereof is humanized N901 or humanized C242.
53. (New) The composition of claim 48, wherein the monoclonal antibody or fragment thereof is Fv, Fab, Fab' or F(ab')₂.

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55. (New) The composition of claim 54, wherein the taxane compound is paclitaxel or docetaxel.

56. (New) The composition of claim 40, wherein the chemotherapeutic agent is a compound that acts through a taxane mechanism.

57. (New) The composition of claim 56, wherein the compound that acts through a taxane mechanism is an epothilone compound.

58. (New) The composition of claim 57, wherein the epothilone compound is epothilone A, epothilone B, epothilone C, epothilone D, epothilone E or epothilone F.

59. (New) The composition of claim 40, wherein the chemotherapeutic agent is a platinum compound.

60. (New) The composition of claim 59, wherein the platinum compound is cisplatin, carboplatin, oxaliplatin, iproplatin, ormaplatin, or tetraplatin.

61. (New) The composition of claim 59, further comprising at least one epipodophyllotoxin compound.

62. (New) The composition of claim 61, wherein the epipodophyllotoxin compound is etoposide or teniposide.

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64. (New) The composition of claim 63, wherein the camptothecin compound is camptothecin, topotecan, irinotecan or 9-aminocamptothecin.

Claim Amendments for US 09/671,995 as of April 2001

65. (New) The composition of claim 40, wherein the chemotherapeutic agent is a compound that inhibits DNA topoisomerase I.

66. (New) The kit of claim 41, wherein the anti-mitotic agent is a maytansinoid.

67. (New) The kit of claim 66, wherein the maytansinoid is DM1.

68. (New) The kit of claim 41, wherein the anti-mitotic agent is a *Vinca* alkaloid, a dolastatin, or a cryptophycin.

69. (New) The kit of claim 68, wherein the *Vinca* alkaloid is vincristine, vinblastine, vindesine or navelbine; wherein the dolastatin is dolastatin 10 or dolastatin 15; and wherein the cryptophycin is cryptophycin 52 or cryptophycin 1.

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71. (New) The kit of claim 70, wherein the monoclonal antibody or fragment thereof is a humanized monoclonal antibody or fragment thereof.

72. (New) The kit of claim 70, wherein the monoclonal antibody or fragment thereof is capable of binding to an antigen expressed by a cancer cell.

73. (New) The kit of claim 70, wherein the monoclonal antibody or fragment thereof is capable of binding to a CD56 antigen.

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75. (New) The kit of claim 70, wherein the monoclonal antibody or fragment thereof is Fv, Fab, Fab' or F(ab')₂.

76. (New) The kit of claim 41, wherein the chemotherapeutic agent is a taxane compound.

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77. (New) The kit of claim 76, wherein the taxane compound is paclitaxel or docetaxel.

78. (New) The kit of claim 41, wherein the chemotherapeutic agent is a compound that acts through a taxane mechanism.

79. (New) The kit of claim 78, wherein the compound that acts through a taxane mechanism is an epothilone compound.

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84. (New) The kit of claim 83, wherein the epipodophyllotoxin compound is etoposide or teniposide.

85. (New) The kit of claim 41, wherein the chemotherapeutic agent is a camptothecin compound.

86. (New) The kit of claim 85, wherein the camptothecin compound is camptothecin, topotecan, irinotecan or 9-aminocamptothecin.

87. (New) The kit of claim 41, wherein the chemotherapeutic agent is a compound that inhibits DNA topoisomerase I.

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88. (New) The kit of claim 41, wherein the immunoconjugate and chemotherapeutic agent are separate components in the kit.

89. (New) The kit of claim 41, wherein the immunoconjugate and chemotherapeutic agent are components of a single composition in the kit.

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